



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,408	09/16/2003	Takahiro Matsumoto	03560.003354.	1686
5514	7590	09/22/2004	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			LAU, TUNG S	
30 ROCKEFELLER PLAZA			ART UNIT	
NEW YORK, NY 10112			PAPER NUMBER	
			2863	

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

zh

# Office Action Summary

Application No.

10/662,408

Applicant(s)

MATSUMOTO ET AL.

Examiner

Tung S Lau

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10-29-03</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### Information Disclosure Statement

1. The IDS filed on 10-29-2003 has been accepted and signed by the examiner.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by  
Kawakubo (U.S. Patent 5,760,411).

Regarding claim 1:

Kawakubo discloses a position detection method for detecting the position of marks, comprising the following steps: a step for detecting first information relating to the position of said mark by detecting light from said mark under first measurement conditions (abstract, fig. 3); a step for detecting second information relating to the position of said mark by detecting light from said mark under second measurement conditions which differ from said first measurement conditions (abstract, fig. 3); and a step for detecting the position of said mark based on said first and second information (abstract, fig. 3).

Regarding claim 7:

Kawakubo discloses an exposure apparatus. comprising: position detecting mark on a surface of a means for detecting a position of a workpiece to be exposed

said position detecting means including means for detecting first information relating to the position of said mark by detecting light from said mark under first measurement conditions (abstract, Col. 3, Lines 5-55), means for detecting second information relating to the position of said mark by detecting light from said mark under second measurement conditions different from said first measurement conditions (abstract, Col. 3, Lines 5-55), and means for detecting the position of said mark based on said first and second information (abstract, Col. 3, Lines 5-55); and exposure means for aligning the workpiece by use of positional information related to a position of the mark detected by said position detecting means. and subjecting the workpiece to pattern exposure (Col. 1, Lines 5-45 ).

Regarding claim 8:

Kawakubo discloses a device manufacturing method, comprising the steps of: a position detecting step for detecting a position of a mark on a surface of a workpiece to be exposed, comprising the substeps of: a substep for detecting first information relating to the position of said mark by detecting light from said mark under first measurement conditions (abstract), a substep for detecting second information relating to the position of said mark by detecting light from said mark under second measurement conditions different from said first measurement conditions (Col. 3, Lines 25-55) . And a substep for detecting the position of said mark based on said first and second information; a pattern exposure step for aligning the workpiece by use of position information related to

a position of the mark detected by said position detecting means (Col. 3, Lines 5-55). And subjecting the workpiece to pattern exposure; and a developing step for developing the workpiece having been exposed in said pattern exposure step, whereby a device can be produced from the developed workpiece (Col. 1, Lines 5-45, Col. 3-4, Lines 55-19).

Regarding claim 2, Kawakubo discloses first and second information is detected in said step for detecting first information and said step for detecting second information by receiving light from said mark by light receiving means via an optical system (fig. 1, unit 11, LB, 12-19); and wherein the focus state of said mark differs between that received by said light receiving means under said first measurement conditions and that received under said second measurement conditions (abstract, fig. 2). Regarding claim 3, Kawakubo discloses first and second information is detected in said step for detecting first information and said step for detecting second information by detecting light from said mark via an optical system (Col. 3, Lines 5-55); and wherein the NA of said optical system differs between that of said first measurement conditions and that of said second measurement conditions (Col. 3, Lines 25-43, Col. 7, Lines 9-46). Regarding claim 4, Kawakubo discloses step for detecting first information and said step for detecting second information by detecting light irradiated onto said mark via illumination system (fig. 1, unit 11, 13, 18, 19, 9); and wherein the coherency of said illumination system differs between that of said first measurement conditions and that of said second measurement conditions (Col. 3, Lines 25-42).

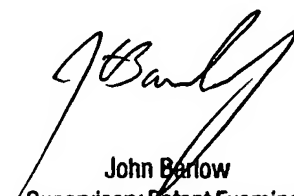
Art Unit: 2863

Regarding claim 5, Kawakubo discloses at least one of the polarization direction and wavelength of the light from said mark differs between that of said first measurement conditions and that of said second measurement conditions (Col. 3, Lines 25-35, fig. 2). Regarding claim 6, Kawakubo discloses first information and said second information is positional information of the measurement direction of said mark (fig. 2); and wherein the position of said mark is detected in said step for detecting the position of said mark, based on the difference in position information of said first information and said second information (Col. 3, Lines 25-55).

Art Unit: 2863

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 571-272-2274. The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone numbers for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL

  
John Barlow  
Supervisory Patent Examiner  
Technology Center 2800